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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/827,741 | 04/06/2001 | Vivek Amir Jairazbhoy | 10541/277 | 6704 |

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EXAMINER

DUONG, THO V

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3743

DATE MAILED: 04/24/2003

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/827,741

Applicant(s)

JAIRAZBHOY ET AL.

Examiner

Tho v Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 5,7-9,12-15 and 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,10 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

The drawings are objected to because figure 1B, which is a cross sectional view of figure 1A, does not disclose the cooling conduit (115) that is shown in figure 1A. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6,10,11,16,17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Russell (US 4,320,246). Russell discloses (figures 1,2 and 7) a container (1) having a receptacle (14) for receiving an electronic device (11); the container (1) defining an annular chamber (3) and having an inner and an outer wall (under and above a liquid coolant level); a liquid coolant (2) is partially filled the chamber; the receptacle (14) is disposed between the electronic device and the chamber; the container (1) is also capable of receiving a cooling conduit (6); a wick structure (5) positioned within the container; the liquid (2) does not contact both the inner wall and the outer wall simultaneously; heat is generating by the electronic device (11) and transferring the heat to a fluid flowing through the conduits (6). Russell further discloses (column 4, lines 25-29) that the fluid can be either gas or liquid and can be pumped into the conduits (6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4,6,10-11 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paterson (US 5,529,115) in view of Davidson et al. (US 5,216,580) and Thomas O. Paine (US 3,603,382). Paterson discloses (figure 1 and 4) a heat pipe (10) comprising a container having a receptacle (13) for receiving an electronic device (12); the container having an inner wall (24) and an outer wall (14) defining a chamber that is partially filled with a liquid coolant (20) and capable of receiving a cooling conduit (24); a condenser plate (48) positioned within the container. Paterson does not disclose that a wick structure lining within an annular space between two coaxial conduits and the receptacle is disposed between the electronic device and the chamber. Davidson discloses (figures 1A) that it is well known in the art that a receptacle (3) is used to dispose between an electronic device (1) and the heat pipe (5) to transfer heat from the electronic device to the heat pipe. Davidson also further discloses (figures 3A and 3B) that a receptacle (22), which is a part of the heat pipe, is disposed between the electronic device (23) and the chamber (35) of the heat pipe to effectively transfer heat from the electronic device to the heat pipe. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Davidson in Paterson's heat pipe to effectively transfer heat from the electronic device to the heat pipe. Thomas discloses (figures 1-3 and column 4, lines 16-28) a heat pipe comprising a container having an outer wall (12) and an inner wall (10) receiving a

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conduit; a wick structure (14) including a first wick structure (24) lining the inside of the outer wall (12); a second wick structure (20) lining the inside of the inner wall (10); a communication wick structure (22) periodically connected the first and the second wick structure so that heat can be effectively transferred from the outer wall (12) to the inner wall (10) by evaporation at the outer wall and condensation at the inner wall. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Thomas's teaching in the combination device of Paterson and Davidson to effectively transfer heat from the outer wall to the inner wall by evaporation at the outer wall and condensation at the inner wall. As regard claims 4 and 20, the communication wicks (24) are symmetrical. Therefore, if the heat applied to the outer wall right bellow to one of the communicating wicks, the opposite communication wick is considered to be readable on the claimed limitation of flow divider.

Conclusion


Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703)308-7764.

Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0861.

Tho Duong

April 19, 2003



Henry Bennett
Supervisory Patent Examiner
Group 3700